

2562-022 PCT/US-1

Amendment dated 05/01/2008

AMENDMENT WITH RCE

03100241aa

Reply to office action mailed 11/01/2007

REMARKS

Claims 1-8 are currently pending in the application. By this amendment, claims 1-8 are amended for the Examiner's consideration. The foregoing separate sheets marked as "Listing of Claims" show all the claims in the application, with an indication of the current status of each.

The specification and abstract have been amended in accordance with the suggestions of the Examiner.

The Examiner maintains objection to the drawings, apparently on the ground that the "conical intermediate space" identified by reference character 16 in Figure 5 is not shaped like a cone. The Examiner is quite right that "conical" cannot mean a curved surface, but instead "conical" in the present case means that two straight lines are not parallel to each other but enclose an angle between them as it is shown in figure 5 and clarified by supplemental reference numeral 16. If acceptable to the Examiner, in order to avoid the implication that the surface to which the "intermediate space" refers is curved, it is agreeable to the applicant to use the term "trapezoidal" instead of "conical". The above amendment adopts this change in terminology.

The Examiner's §112 rejections are believed to be resolved by the above amendments, as explained below.

The Examiner's consideration in a telephone interview on April 30, 2008, is acknowledged with appreciation. After discussion, both the Examiner and the undersigned came to the same understanding of the structure of the invention, and in particular how that structure permits an injection molding of a single window frame piece that includes both the post (6) and the U-shaped guide (8) without the need for a slide to preserve a continuous channel space, as in the prior art. The enabling structure provides alternating sections on the vertical limbs of the U-shaped guide, so as to facilitate demolding of mold pieces that fit together to form the U-shaped guide

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without slides (which are additional pieces, separate from the main mold halves, inserted in the molding process to preserve designed spaces in the molded component). The Examiner indicated that in order to obtain an allowance it would be necessary to bring in straight line (13) from Fig. 5 and provide better description of the undulations in the separating surface than is provided by the term “meandering.” The Examiner suggested that this could be accomplished by bring the limitations of claim 4 into claim 1. The undersigned expressed a preference for an alternative formulation that would maintain some form of existing claims 3 and 4. The Examiner indicated that if the claim amendments provided in an RCE were sufficiently close to being acceptable for allowance, he would be able to make the necessary adjustments for allowance with an Examiner’s Amendment.

Please note that the argument presented earlier and at the interview concerning the need for sliders with respect to Fig. 16 of Nozaki is abandoned, Nozaki being removed as a reference for the other reasons stated and by a more extensive further argument.

As will be observed by the above amendment, and in particular amendment to claims 1, 3 and 4, an alternative approach has been taken. This approach provides a more graphically detailed structure for the U-shaped guide, using the “U” as a reference for defining the two limbs. Based on this definition, a cross section moving along the U-shaped guide is used to describe the alternate L-shape and mirror-L-shape, with an “interspace” at each alternation where neither an L-shape or a mirror-L-shape appears. The alternating limb sections thereby described are then used to define a separating surface, which is then used to define straight line (13) in claim 3, which is then used to describe the trapezoidal spaces in claim 4. It is submitted that this descriptive formulation of the essential features of the invention provides the clear and unambiguous description of the invention required by the Examiner, and clarifies the distinctions made in the arguments overcoming the prior art references.

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The invention provides a one piece window frame unit. Under the prior art, the window frame element was the window frame post alone, to which a separately produced U-shaped rail was attached. An attempt at producing a U-shaped rail during the diecasting of the window frame element would require the use of a slide (an additional and separate molding piece) to preserve the intermediate space between the limbs of the U-shaped rail, because this space is an undercut as viewed in the main demolding direction (page 1, line 31, to page 2, line 8). Because this complication to the molding process is not economical, the U-shaped guide in the prior art is produced separately and then fastened to the window frame element.

The structure of the single piece window frame unit including the U-shaped guide in accordance with the present invention avoids the need for a slide, and therefore enables an economical single injection mold construction of the combined window frame unit and U-shaped guide. Instead of a prior art U-shape cross section, the mold pieces have a cross section of mirrored L-sections (page 2, lines 23-36). Further, there are provided interspaces between the alternating sections (9, 10) so that the mold can be constructed with alternating trapezoidal structures that fit together for the injection molding, and then are separated along the main demolding direction.

The invention that is the subject of the claims in the application is the single piece combination structure molded without slides, a structure enabled by the U-shaped guide composed of these mirrored L-sections.

Once this is understood, then it becomes clear that the references presented by the Examiner do not apply. In summary, the Nozaki reference shows a separate guide structure, not including a window frame post, which under the prior art would have a main demolding direction that is perpendicular to that of the present invention (as is evident from Fig. 16 and, particularly, from Fig. 18A). There is no teaching, suggestion or motivation in Nozaki for a combined single piece molded construction that includes both the window frame post (6) and the U-shaped guide (8). The Yoshida reference shows a guide composed of inner and outer wings establishing a

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continuous rail with the conventional U-shaped structure, not the L-sections of the present invention.

The amendment to claim 1 clarifies the above described characteristics of the invented structure so as to both a) distinguish the Nozaki and Yoshida references and b) resolve the Examiner's remaining objections and grounds for rejection under §112. The amendments to claim 1 provide an alternative implementation of the additional elements desired by the Examiner, with corresponding modifications to claims 3 and 4.

The Examiner has rejected claims 1, 2 and 8 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,943,823 to Yoshida et al. ("Yoshida"). Yoshida discloses a lower sash of a vehicle door including a window glass guide. The window may be moved to descend in the direction of the arrow of figure 1. Consequently, the guide 1 is not a lateral guide of the window pane but instead a guide which extends over the whole length (width) of the window pane. The Examiner refers to the embodiment of figures 4 to 7 showing window guides 1 disposed in a zigzag manner. Said guides 1 are parts of the inner wing 5 and the outer wing 4. These wings establish a continuous rail so that there is no alternating intermediate portion which is free of "limb" material so as to allow a part of the casting mold to move in and out of the intermediate guide space, as disclosed for the present invention (page 5, lines 29-31) and now made explicit by the above claim amendments. Instead, a slide would be required to accommodate the Yoshida structure.

Therefore it is believed that Yoshida is overcome as a reference.

The Examiner also maintains his earlier rejection of claims 1, 3 and 4 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,305,125 to Nozaki et al. ("Nozaki") and his earlier rejection of claims 5-7 under 35 U.S.C. §103(a) as being unpatentable over Nozaki. The rejections based on Nozaki seems to be unjustified because the Examiner obviously refers to the prior art Fig. 16. In Fig. 16, however,

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the part 100, if produced as a die cast part, has a main demolding direction which is perpendicular to the post 112 and, consequently parallel to the longitudinal direction of the “limb sections” 114. As discussed below, “post” 112 does not correspond to the “post” of the invention, but is rather part of the guide. The above amendment clarifies the structure by using the more descriptive term “window frame post.” There is no indication or suggestion in Nozaki of the combined structure of the present invention that includes the U-shaped guide together with the window frame post to produce a one-piece window frame unit. Therefore, because of orientation of the demolding direction for a prior art injection molding of the guide shown in Fig. 16 of Nozaki, the problem addressed by the present invention does not arise in Nozaki. This becomes clear from, for example, Fig. 18 where the main demolding direction again is perpendicular to the plane of the post (and coincides with the direction of section line 18B in Fig. 18A). It is submitted that the above description of the single piece combination invention as claimed is inconsistent with use of the Nozaki reference.

The Examiner contends that Fig. 16 of Nozaki discloses a one piece window frame unit 100 having both a post 112 and a guide. But this is an incorrect characterization of Fig. 16, which is clearly labeled “prior art” and, in the “Brief Description of the Drawings” (col. 4, lines 17-18) and in the “Background Description” (col. 1, lines 56-57) is shown to be the “guide portion” of the conventional sash (emphasis supplied). What is shown in Fig. 16 is clearly “the guide portion 100” (col. 1, lines 57-58) of the sash. There is no disclosure of a structure comparable to the window frame post as shown by item 6 in Figs. 1, 2, 4 and 6 of the present invention. Nor is there any indication or suggestion, in the discussion of this prior art guide portion, of a single unit construction including the window frame post (6) as claimed for the present invention. Nozaki provides no motivation for such a discussion, instead referring to its invention as the “guide structure” having a “sash with a grove” (col. 2, lines 64-65). No specific discussion

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of how this structure is connected to other structures in the car door is given, beyond the summary statement that the “sash is disposed inside a door panel” (col. 2, lines 65-66) and reference to a bracket for fixing the sash to the inner panel of the door’s main body (col. 5, lines 1-4). Nozaki is concerned with an improvement to the guide structure so as to prevent rattling (col. 1, lines 53-54; col. 2, lines 29-30).

The equivalent of the “U-shaped” structure is provided by “a sash main body having a base portion and laterally spaced side wall portions extending from both sides of the base portion” (col. 3, lines 1-3). “The base portion and the side wall portions form the groove” (col. 3, lines 3-4). The remaining structures of the invention are disposed within the sash and groove to contact the door glass so as to limit vibration and sound (col. 3, lines 4-15). Nozaki’s discussion of construction techniques is focused upon construction of the guide structure itself. For example, reference is made to use of adhesives to attach the lip portions to the main body of the prior art guide shown in Fig. 17 (col. 2, lines 18-20). Reference is made to removable “sliding pins” to preserve holes in injection molding of the embodiment shown in Fig. 1A, presumably also including the hole in the bracket for mounting the sash to the inner door panel. Obviously, this is injection molding using sliders, for a guide formed separately from any door structure to which it might then be attached. Reference is also made to extrusion molding of a guide piece (40) used in one of the embodiments (col. 8, lines 52-59). Further, it will be observed that all the guide structure embodiments of the Nozaki invention have continuous grooves that teach against implementation of the present invention (e.g. Figs. 1A, 6, 18A).

For all the reasons stated above it is believed that Nozaki is overcome as a reference. Clearly this is so under §102, because there is no disclosure of a one-piece construction that combines a window frame post with the guide portion. But Nozaki also fails as a §103 reference because there is no teaching, suggestion or motivation in Nozaki to form the guide shown in Fig. 16 in the manner taught by the present invention. It is only the present invention that provides the teaching, suggestion and

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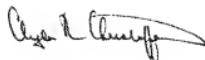
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motivation to form a one-piece unit the combination of a guide structure (shown as prior art in Fig. 16 of Nozaki) and a window frame post.

In view of the foregoing, it is requested that the application be reconsidered, that claims 1-8 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400 (fax: 703-787-7557; email: clyde@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Sincerely,



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